MAY 0 9 2005

Sheet

PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

ork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number. Under the Paper Application for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known					
Application Number	10/626,472				
Filing Date	July 24, 2003				
First Named Inventor	LIBERA, Matthew				
Art Unit	1762				
Examiner Name	To Be Assigned				
Attorney Docket Number	97084-00022				

			U. S. PATENT	DOCUMENTS	
Examine Initials*	r Cite No.1	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
AA		Number-Kind Code ^{2 (If known)}	_		Figures Appear
(2)	1	^{US-} 3,470,078	09-30-1969	P. A. King	
	2	^{US-} 4,684,558	08-04-1987	Keusch et al.	
	3	^{US-} 4,997,656	03-05-1991	Shikinami et al.	
1	4	^{US-} 5,143,071	09-01-1992	Keusch et al.	
	5	^{US-} 5,171,264	12-15-1992	Merrill	
	6	^{US-} 5,219,325	06-15-1993	Hennink et al.	
	7	US- 5,275,838	01-04-1994	Merrill	
	8	US- 5,354,790	10-11-1994	Keusch et al.	
\Box	9	^{US-} 5,480,717	01-02-1996	Kundel	
	10	^{US-} 5,505,957	04-09-1996	D'Angelo et al.	
T	11	^{US-} 5,567,435	10-22-1996	Hubbell et al.	
\Box	12	^{US-} 5,593,395	01-14-1997	Martz	·
	13	^{US-} 5,626,863	05-06-1997	Hubbell et al.	
	14	^{US-} 5,650,165	07-22-1997	Akemi et al.	
	15	US- 5,674,275	10-07-1997	Tang et al.	
	16	US- 5,674,346	10-07-1997	Kundel	
	17	^{US-} 5,700,585	12-23-1997	Lee	
A	18	^{US-} 5,712,346	01-27-1998	Lee	
THE STATE OF THE S	19	US- 5,807,636	09-15-1998	Sheu et al.	

		FORE	IGN PATENT DOCL			
Initials*	Cite No.	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	İ
		Country Code ³ "Number ⁴ "Kind Code ⁵ (if known)	MM-DD-YYYY			Ľ
X	47	EP 1 116 516	07-18-2001	Gesellschaft		
74	48	WO 96/030409	10-03-1996	Makromolekulam		L
4	. 49	WO 02/017888	03-07-2002	Gesellschaft		L
						Ļ
						L
				1	l	L

Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. Applicant is to place a check mark here if English language Translation is attached.

Translation is attached.
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

PTO/SB/08A (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number. Complete if Known Substitute for form 1449/PTO **Application Number** 10/626,472 July 24, 2003 Filing Date INFORMATION DISCLOSURE First Named Inventor LIBERA, Matthew STATEMENT BY APPLICANT Art Unit 1762 (Use as many sheets as necessary) Examiner Name To Be Assigned 97084-00022 Attorney Docket Number

			U. S. PATEN	DOCUMENTS	
Examiner initials*	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Unes, Where Relevant Passages or Relevant Figures Appear
(IA		Númber-Kind Code ^{2 (F known)}	11. 15. 1555	<u> </u>	Tigures Appala
41)	20	^{US-} 5,837,377	11-17-1998	Sheu et al.	
	21	^{US-} 5,840,329	11-24-1998	Bai	
	22	^{US-} 5,846,214	12-08-1998	Makuuchi et al.	
	23	^{US-} 6,068,053	05-30-2000	Shaw	
	24	^{US-} 6,068,853	05-30-2000	Giannos et al.	
	25	^{US-} 6,103,785	08-15-2000	Kajikawa et al.	
	26	^{US-} 6,187,872	02-13-2001	Yanase et al.	
	27	^{US-} 6,228,390	05-08-2001	Kundel	
	28	^{US-} 6,306,422	10-23-2001	Batich et al.	
	29	^{US-} 6,306,922	10-23-2001	Hubbell et al.	
	30 [,]	^{US-} 6,316,018	11-13-2001	Ding et al.	
	31	^{US-} 6,444,744	09-03-2002	Fujimaru et al.	
	32	^{US-} 6,468,383	10-22-2002	Kundel	
	33	^{US-} 6,509,098	01-21-2003	Merrill et al.	
	34	us- 6,740,409	05-25-2004	Granick et al.	
	35	US- 2001/0041349	11-15-2001	Patron et al.	
	36	^{US-} 2002/0007217	01-17-2002	Jacob et al.	
1	37	^{US-} 2002/0010261	01-27-2002	Callahan et al.	
A A	38	^{US-} 2002/0037383	03-28-2002	Spillman, Jr. et al.	

	FURE	IGN PATENT DOCU	MENIS_		
Cite No.	Foreign Patent Occument	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages	
	Country Code ³ Number ⁶ Kind Code ⁸ (if known)	MM-DD-YYYY		Or Relevant Figures Appear	L.
					L
					L
		No.¹	No.' Date MM-DD-YYYY	No.¹ Date Applicant of Cited Document	No.¹ Date Applicant of Cited Document Where Relevant Passages MM-DD-YYYY MM-DD-YYYY Applicant of Cited Document Where Relevant Passages Or Relevant Figures Appear

*EXAMINER: Initial identerance considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered, include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. Applicant is to place a check mark here if English language

Date Considered

Examiner

Signature

Transation is autoritied.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08A (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

97084-00022

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number. Complete if Known Substitute for form 1449/PTO **Application Number** 10/626,472 Filing Date July 24, 2003 INFORMATION DISCLOSURE First Named Inventor LIBERA, Matthew STATEMENT BY APPLICANT Art Unit 1762 (Use as many sheets as necessary) Examiner Name To Be Assigned

Sheet

US ŪS-US-

Examiner

Signature

Attorney Docket Number

			U. S. PATEN	DOCUMENTS	
Examiner Initials*	Cite No.1	Document Number Number-Kind Code ^{2 (Finore)}	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	39	US- 2002/0071902	06-13-2002	Ding et al.	
9	40	^{US-} 2002/0091229	07-11-2002	Hubbell et al.	
T	41	US- 2002/0031699	03-14-2002	Hampe et al.	
\neg	42	US- 2003/0054024	03-20-2003	Munro et al.	
\neg	43	^{US-} 2003/0069383	04-10-2003	Van Antwerp et al.	
1	44	US- 2003/0077447	04-24-2003	Senak	
4	45	us- 2003/0082225	05-01-2003	Mason	
KIIS.	46	us- 2003/0087099	05-08-2003	Merrill et al.	
		US-			
	1	LIC /			

		FORE	IGN PATENT DOCU	MENTS		
Examiner Initials*	Cite No.	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages	
		Country Code ³ "Number ⁴ "Kind Code ⁵ (if known)	MM-DD-YYYY		Or Relevant Figures Appear	T
						F
	-					╫
						L
	\angle				<u></u>	L

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered, include copy of this form with next communication to applicant. 'Applicant's unique citation designation number (optional). 'See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 'Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 'For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. *Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. *Applicant is to place a check mark here if English language

Considered

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0551-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449/PTO		Complete if Known			
Subsului	3 101 101111 14431 10			Application Number	10/626,472
INFO	DRMATION	DIS	CLOSURE	Filing Date	July 24, 2003
STA	STATEMENT BY APPLICANT			First Named Inventor	LIBERA, Matthew
	(Use as many she		nense ned	Art Unit	1762
	(Use as many sne	1812 82 71		Examiner Name	To Be Assigned
Sheet	4	of	9	Attorney Docket Number	97084-00022

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
JA.	50	ITO, Yoshihiro, Surface Micropatterning to Regulate Cell Functions, Biomaterials, 1999, pp. 2333-2342, Issue 20.	
	51	KANE, Ravi S. et al., Patterning Proteins and Cells Using Soft Lithography, Biomaterials, 1999, pp. 2363-2376, Issue 20.	
	52	CHEN, Christopher S. et al., Geometric Control of Cell Life and Death, Science, 30 May 1997, pp.1425-1428, Issue 276.	
	53	HYUN, Jinho et al., Micropatterns of a Cell-Adhesive Peptide on an Amphiphilic Comb Polymer Film, Langmuir, 2002, pp. 2975-2979, Issue 18.	
	54	JAMES, C. D. et al., Patterned Protein Layers on Solid Substrates by Thin Stamp Microcontact Printing, Langmuir, 1998, pp. 741-744, Issue 14.	
	55	SINGHVI, Rahul et al., Engineering Cell Shape and Function, Science, 29 April 1994, pp. 696-698, Issue 264.	
	56	CHIU, Daniel T. et al., Patterned Deposition of Cells and Proteins onto Surfaces by Using Three-Dimensional Microfluidic Systems, Proceedings of the National Academy of	
		Sciences USA, 14 March 2000, pp. 2408-2413, Vol. 97, No. 6.	
X	57	DELAMARCHE, Emmanuel et al., Microfluidic Networks for Chemical Patterning of Substrates: Design and Application to Bioassays, Journal of the American Chemical Society,	
		9 January 1998, pp. 500-508, Issue 120.	

	$ \lambda$		
Examiner Signature		Date Considered	V210/00

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation a rick in conformance and not considered. Include copy of this form with next communication to applicant,

considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/S8/088 (08-03)

Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449/PTO			tor 1993, no persons ar	e required to respond to a collection of information unless it contains a valid OMB control number. Complete if Known		
Substitut	9 101 101111 1443/- 10			Application Number	10/626,472	
INFO	RMATION	I DIS	CLOSURE	Filing Date	July 24, 2003	
STA	TEMENT E	BY A	PPLICANT	First Named Inventor	LIBERA, Matthew	
	##			Art Unit	1762	
	(Use as many she	ess as n	-	Examiner Name	To Be Assigned	
Sheet	5	of	9	Attorney Docket Number	97084-00022	

		NON PATENT LITERATURE DOCUMENTS	_
Examiner Cite No.1		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
48	58	FOLCH, Albert et al., Cellular Micropatterns on Biocompatible Materials, Biotechnology Progress, 20 May 1998, pp. 388-392, Issue 14.	:
	59	PARK, Ann et al., Integration of Surface Modification and 3D Fabrication Techniques to Prepare Patterned Poly(L-lactide) Substrates Allowing Regionally Selective Cell	
		Adhesion, Journal of Biomaterials Science: Polymer Edition, 1998, pp. 89-110, Vol. 9, No. 2.	
	60	LEE, Ki-Bum et al., Protein Nanoarrays Generated by Dip-Pen Nanolithography, Science, 1 March 2002, pp. 1702-1705, Vol. 295.	
	61	NGUYEN, Kytai Truong et al., Photopolymerizable Hydrogels for Tissue Engineering Applications, Biomaterials, 2002, pp. 4307-4314, Issue 23.	
	62	PEPPAS, Nicholas A. et al., New Challenges in Biomaterials, Science, 25 March 1994, pp. 1715-1720, Vol. 263.	
	63	BEEBE, David J. et al., Functional Hydrogel Structures for Autonomous Flow Control Inside Microfluidic Channels, Naturé, 6 April 2000, pp. 588-590, Vol. 404.	
	64	HARRIS, J. Milton, Introduction to Biotechnical and Biomedical Applications of Poly(Ethylene Glycol), Poly(Ethylene Glycol) Chemistry, 1992, pp. 1-14, Plenum Press,	
5		New York City, United States of America.	
A	65	ISRAELACHVILI, Jacob, The Different Faces of Poly(Ethylene Glycol), Proceedings of the National Academy of Sciences USA, August 1997, pp. 8378-8379, Vol. 94.	

Examiner	Date	2/02/20
Signature	Considered	125100

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

considered. Include copy of this form with next communication to applicants.

Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of Information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

	te for form 1449/PTO			e required to respond to a collection of information unless it contains a valid OMB control number. Complete If Known			
Subsumi	(e 10) 10//// 1443/F 10			Application Number	10/626,472		
INFO	DRMATION	DIS	CLOSURE	Filing Date	July 24, 2003		
STATEMENT BY APPLICANT				First Named Inventor	LIBERA, Matthew		
	(Use as many she	-4		Art Unit	1762		
	(USB as many sne	ets as n	ecessary)	Examiner Name	To Be Assigned		
Sheet	6	of	9	Attorney Docket Number	97084-00022		

	NON PATENT LITERATURE DOCUMENTS							
Examiner Cite No.1		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²					
30	66	ALCANTAR, Norma A. et al., Polyethylene Glycol-Coated Biocompatible Surfaces, Journal of Biomedical Materials Research, 2000, pp. 343-351, Vol. 51.						
	67	ANDRADE, J. D. et al., Protein Adsorption and Materials Biocompatibility: A Tutorial Review and Suggested Hypothesis,						
		Advances in Polymer Science 79, 1986, pp. 1-63, Springer-Verlag, Berlin.						
	68	GOMBOTZ, Wayne R. et al., Protein Adsorption to Poly(Ethylene Oxide) Surfaces, Journal of Biomedical Materials Research, 1991, pp. 1547-1562, Vol. 25.						
	69	GRAHAM, N. B., Poly(Ethylene Glycol) Gels and Drug Delivery, Poly(Ethylene Glycol) Chemistry, 1992, pp. 263-281, Plenum Press, New York City, United States of America.						
	70	PRIME, Kevin L. et al., Adsorption of Proteins onto Surfaces Containing End-Attached Oligo(Ethylene Oxide): A Model System Using Self-Assembled Monolayers,						
		Journal of the American Chemical Society, 1993, pp. 10714-10721, Issue 115.						
	71	SOFIA, Susan J. et al., Poly(Ethylene Oxide) Grafted to Silicon Surfaces: Grafting Density and Protein Adsorption, Macromolecules, 10 July 1998, pp. 5059-5070, Issue 31.						
A	72	FOTIOS, M. Andreopoulos et al., Light-Induced Tailoring of PEG-Hydrogel Properties, Biomaterials, 1998, pp. 1343-1352, Issue 19.						
		-						

Examiner Signature	Law	Date Considered	1/23/06

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitut	te for form 1449/PTO	_		Complete if Known		
3003000	15 IG IGIII 1443F10		•	Application Number	10/626,472	
INFO	DRMATION	I DIS	CLOSURE	Filing Date	July 24, 2003	
STA	TEMENT E	BY A	PPLICANT	First Named Inventor	LIBERA, Matthew	
	***			Art Unit	1762	
	(Use as many she	eets as n	ecessary) 	Examiner Name	To Be Assigned	
Sheet	7	of	9	Attorney Docket Number	97084-00022	

	_		NON PATENT LITERATURE DOCUMENTS	
Examine Initials*	Examiner Cite No.1		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
4	9	73	CRUISE, Gregory M. et al., Characterization of Permeability and Network Structure of Interfacially Photopolymerized Poly(Ethylene glycol) Diacrylate Hydrogels,	
			Biomaterials, 1998, pp. 1287-1294, Issue 19.	
		74	LU, Sanxiu et al., Release Behavior of High Molecular Weight Solutes from Poly(Ethylene Glycol)-Based Degradable Networks,	
			Macromolecules, 15 March 2000, pp. 2509-2515, Issue 33.	
		75	MELLOTT, Michael B. et al., Release of Protein from Highly Cross-Linked Hydrogels of Poly(Ethylene Glycol) Diacrylate Fabricated by UV Polymerization,	
			Biomaterials, 2001, pp. 929-941, Issue 22.	
		76	KOFINAS, Peter et al., Hydrogels Prepared by Electron Irradiation of Poly(Ethylene Oxide) in Water Solution: Unexpected Dependence of	
			Cross-Link Density and Protein Diffusion Coefficients on Initial PEO Molecular Weight, Biomaterials, 1996, pp. 1547-1550, Issue 17.	
		77	ROSIAK, J. M. et al., Synthesis of Hydrogels by Irradiation of Polymers in Aqueous Solution, Radiation Physics and Chemistry, 1999, pp. 139-151, Issue 55.	
R	>	78	SOFIA, Susan J. et al., Grafting of PEO to Polymer Surfaces Using Electron Beam Irradiation, Journal of Biomedical Materials Research, 1998, pp. 153-163, Issue 40.	

Examiner	Date	V22/10
Signature	Considered	12900

*EXAMINER: Initial If reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English tanguage Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08B (08-03)

Approved for use through 07/31/2005. OMB 0551-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

	te for form 1449/PTO		at of 1995, no persons a	Complete if Known		
				Application Number	10/626,472	
INFO	ORMATION	I DIS	CLOSURE	Filing Date	July 24, 2003	
STA	TEMENT E	BY A	PPLICANT	First Named Inventor	LIBERA, Matthew	
	(Use as many she	uste ne n	nencez#A	Art Unit	1762	
	1036 as many see	7013 G3 /F		Examiner Name	To Be Assigned	
Sheet	8	of	9	Attorney Docket Number	97084-00022	

		NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²			
	FLORY, Paul J., Principles of Polymer Chemistry, 1953, pp. 576-594, Cornell University Press, Ithaca, New York, United States of America.					
	.80	MERRILL, Edward W. et al., Partitioning and Diffusion of Solutes in Hydrogels of Poly(Ethylene Oxide), Biomaterials, 1993, pp. 1117-1126, Vol. 14, No. 15.				
	81	ZHANG, Lihua et al., Radiation Effects on Crystalline Polymers – I. Gamma-Radiation-Induced Crosslinking and Structural Characterization				
		of Polyethylene Oxide, Radiation Physics and Chemistry, 1992, pp. 501-505, Vol. 40, No. 6.				
	82	MURATA, Kenji et al., Monte Carlo Simulation of Fast Secondary Electron Production in Electron Beam Resists,				
		Journal of Applied Physics, July 1981, pp. 4396-4405, Vol. 52, No. 7.				
	83	RAI-CHOUDHURY, P., Electron Beam Lithography, Handbook of Microlithography, Micromachining, and Microfabrication: Volume 1: Microlithography, 1997				
		1997, pp. 160-237, SPIE Optical Engineering Press, Bellingham, Washington, United States of America.				
1	84	KURTZ, Steven M. et al., Advances in the Processing, Sterilization, and Crosslinking of Ultra-High Molecular Weight Polyethylene for Total Joint				
4	2	Arthroplasty, Biomaterials, 1999, pp. 1659-1688, Issue 20.				

Examiner Date Signature \ Considered

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

considered. Include copy or this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of Information is required by 37 CFR 1.98. The Information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/088 (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

	e for form 1449/PTO		d of 1995, no persons a	Complete if Known		
Substituti	9 10/ 10/11/ 1449/- 10			Application Number	10/626,472	
INFO	RMATION	DIS	CLOSURE	Filing Date	July 24, 2003	
STA	TEMENT E	BY A	PPLICANT	First Named Inventor	LIBERA, Matthew	
	(Use as many she		odoccom d	Art Unit	1762	
	(USB as many sne	ers as n	ecessary)	Examiner Name .	To Be Assigned	
Sheet	9	of	9	Attorney Docket Number	97084-00022	

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
4	85	DITCHFIELD, R. W. et al., "Electron Energy Loss Studies of Polymers During Radiation Damage, Philosophical Magazine, 1973, pp. 1267-1280, Vol. 27, No. 6.	
	86	MERRILL, Edward W. et al., Polyethylene Oxide As a Biomaterial, Journal of the American Society for Artificial Internal Organs, 1982, pp. 60-64, Issue 6.	
	87	GOODBERLET, James G. et al., Performance of the Raith 150 Electron-Beam Lithography System, Journal of Vacuum Science and	
		Technology, November/December 2001, pp. 2499-2503, Vol. B19, No. 6.	
	88	INGBER, Donald E., Fibronectin Controls Capillary Endothelial Cell Growth by Modulating Cell Shape, Proceedings of the National Academy	
A		of Science, May 1990, pp. 3579-3583, Vol. 87.	
,			
,			

Date Examiner Signature -Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if got in conformance and not considered. Include copy of this form with next communication to applicant.

considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of Information is required by 37 CFR 1.98. The Information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08a (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction AC \$1995, no persons a deception of information unless it contains a valid OMB control number.

	ite for form 1449A/PT		MADEMARIE	Complete if Known		
				Application Number	10/626,472	
INF	ORMATION	I DIS	CLOSURE	Filing Date	July 24, 2003	
STA	TEMENT B	BY A	PPLICANT	First Named Inventor	Matthew R. Libera	
				Art Unit	To be assigned	
(use as many sheets as necessary)				Examiner Name	To be assigned	
Sheet	1	of	4	Attorney Docket Number	97084/00022	

U.S. PATENT DOCUMENTS									
Examiner Initials	Cite No.1	Document Number 2 Number Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear				
SET		US- 4,684,558	8/4/1987	Keusch, et al.					
- 10		US- 4,997,656	3/5/1991	Shikinami, et al.					
		US- 5,143,071	9/1/1992	Keusch, et al.					
		US- 5,171,264	12/15/1992	Merrill					
		US- 5,219,325	6/15/1993	Hennink, et al.					
$\neg \neg$		US- 5,275,838	1/4/1994	Merrill					
$\neg \vdash$		US- 5,354,790	10/11/1994	Keusch, et al.					
		US- 5,480,717	1/2/1996	Kundei					
		US- 5,505,957	4/4/1996	D'Angelo, et al.					
\top		US- 5,567,435	10/22/1996	Hubbell, et al.					
		US- 5,593,395	1/14/1997	Martz					
T		US- 5,626,863	5/6/1997	Hubbell, et al.					
		US- 5,650,165	7/22/1997	Akemi, et al.					
		US- 5,674,275	10/7/1997	Tang, et al.					
		US- 5,674,346	10/7/1997	Kundel					
		US- 5,700,585	12/23/1997	Lec					
		US- 5,712,346	1/27/1998	Lee					
		US- 5,807,636	9/15/1998	Sheu, et al.					
1	7	US- 5,837,377	11/17/1998	Sheu, et al.					
TAX.		US- 5,840,329	11/24/1998	Bai					

				FORE	IGN PATENT DOC	CUMENTS		
Examiner Initials	Cite No.1	Foreign Patent Document			Publication Date	Name of Patentee or	Pages, Columns, Lines, Where Relevant	
				MM-DD-YYYY	Applicant of Cited Document	Passages or Relevant Figures Appear	тв	
1								╄
						<u> </u>		┼-
						_	+-	
		 						
								\bot
						ļ	 	╄╼
		 		- - 				T
	-	 						
Exami	ner					Date Considered	52/x,	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 801.04. Senter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the Indication of the year of the reign of the Emperor must precede the serial number of the patent document. Skind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 18 if possible. Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

		(P	ATTY DOCKET NO. 97084/00022		SERIAL NO. 10/	626,472				
INF	FORMATION DISCLOSURE (Use several sheets if necess	CITATION	(A)							
	1030 3040/01 310003 11 110003	, aug . 1	6 2004 FILING July 24, 2003		GROUP To be	assigned				
		Per y.s	PACENT DOCUMENTS							
'EXAMINER	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE				
INITIAL ·	5,846,214	12/8/1998	Makuuchi, et al.			IF APPROPRIATE				
	6,068,053	5/30/2000	Shaw	<u> </u>						
	6,103,785	8/15/2000	Kajikawa, et al.							
	6,187,872 B1	2/13/2001	Yanase, et al.							
	6,228,390 B1	5/8/2001	Kundel							
	6,306,922 B1	10/23/2001	Hubbell, et al.							
	6,316,018 B1	11/13/2001	Ding, et al.							
	6,444,744 B1	9/3/2002	Fujimaru, et al.							
	6,468,383 B2	10/22/2002	Kundel							
y_	6,475,808 B1	11/5/2002	Wagner, et al.							
	6,475,809 B1	11/5/2002	Wagner, et al.		<u> </u>					
		FORE	IGN PATENT DOCUMENTS							
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO				
	1									
	OTHER DOCUME	NTS (Includin	g Author, Title, Date, Pertinent P	ages, Etc	:.)					
EXAMINER <			DATE CONSIDERED	9-	100					
*EXAMINER: In	itial if reference considered, whether	er or not citation is	in conformance with MPEP 609; Draw li	ne through	citation if not in co	onformance and not				

		ATTY DOCKET NO. 97084/00022	S	SERIAL NO. 10/626,472					
INFORMATION DISCLOSURE CITATION									
	(Use several sheets if necessal	AUG , 1 6	2004	FILING	G	ROUP			
July 24, 2003 1 o be assigned									
U.S. PATENT DOCUMENTS									
'EXAMINER	DOCUMENT NUMBER	DATE		NAME	CLASS	SUBCLASS	FILING DAT		
6	5,509,098 B1	1/21/2003	Merrill,	et al.	_				
Į	US 2001/0041349 A1	11/15/2001	Patron,	et a.	~~				
ι	US 2002/0007217 A1	1/17/2002	Jacob, e	et al.					
τ	US 2002/0010261 A1 1/24/2002		Callaha	n, et al.					
U	US 2002/0037383 A1	3/28/2002	Spillma	n, Jr., et al.					
τ	US 2002/0071902 A1	6/13/2002	Ding, et	al.					
J	US 2002/0091229 A1	7/11/2002	Hubbell	l, et al.					
Ţ	US 2002/0106702 A1	8/8/2002	Wagner	, et al.					
U	US 2002/0110932 A1	8/15/2002	Wagner	, et al.					
U	US 2002/0110933 A1 8/15/200		Wagner	, et al.					
J.	US 2002/0119579 A1 8/29/2002		Wagner						
		FORE	IGN PATE	NT DOCUMENTS					
	DOCUMENT NUMBER		DATE COUNTRY		CLASS	SUBCLASS	TRANSI YES	ATION	
		·							
		 							
						-			
									
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)									
EXAMINER DATE CONSIDERED 1 9/									
4 20106									
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.									

ATTY DOCKET NO. SERIAL NO. 10/626,472										
INFORMATION DISCLOSURE CITATION										
(Use several sheets if necessary) AUS 1 6 2004 FILING GROUP										
July 24, 2003 To be assigned										
	U.S. PATENT DOCUMENTS									
*EXAMINER		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE			
A		US 2002/0132272 A1	9/19/2002	Wagner, et al.						
70		US 2003/0031699 A1	2/13/2003	Van Antwerp						
		US 2003/0054024 A1	3/20/2003	Munro, et al.						
		US 2003/0069383 A1	4/10/2003	Van Antwerp, et al.						
		US 2003/0077447 A1	4/24/2003	Senak						
9		US 2003/0082225 A1	5/1/2003	Mason						
23		US 2003/0087099 A1	5/8/2003	Merrill, et al.						
			FORE	EIGN PATENT DOCUMENTS						
		DOCUMENT NUMBER DATE		COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO			
	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)									
EXAMINE	R	4		DATE CONSIDERED	V	27/01	e			
*EXAMINE	*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not									
considered. Include copy of this form with next communication to applicant.										

Form PTO-A820 (also form PTO-1449)